


RENMISEN
xoom

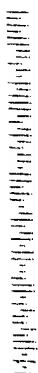
OFFICIAL BUSINESS



5083



TECH CENTER 1600/2900





UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

06/02/2004

LISA A HAILE
GRAY CARY WARE & FRIEDENRICH
4365 EXECUTIVE DRIVE
SUITE 1600
SAN DIEGO, CA 92121

EXAMINER

CARLSON, KAREN C

ART UNIT

PAPER NUMBER

1653

DATE MAILED: 06/02/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,517	05/18/2000	CHARLES S. ZUKER	AU01210-1	5179

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR IDENTIFYING MODULATORS OF TRANSDUCISOMES, A NEW CLASS OF THERAPEUTIC TARGETS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$665	\$0	\$665	09/02/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

**Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590

06/02/2004

**LISA A HAILE
GRAY CARY WARE & FRIEDENRICH
4365 EXECUTIVE DRIVE
SUITE 1600
SAN DIEGO, CA 92121**

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,517	05/18/2000	CHARLES S. ZUKER	AURO1210-1	5179

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR IDENTIFYING MODULATORS OF TRANSDUCISOMES, A NEW CLASS OF THERAPEUTIC TARGETS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$665	\$0	\$665	09/02/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
CARLSON, KAREN C	1653	514-044000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1	_____
2	_____
3	_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)

(Date)

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.** SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMIT THIS FORM WITH FEE(S)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,517	05/18/2000	CHARLES S. ZUKER	AURO1210-1	5179

7590 06/02/2004

LISA A HAILE
GRAY CARY WARE & FRIEDENRICH
4365 EXECUTIVE DRIVE
SUITE 1600
SAN DIEGO, CA 92121

EXAMINER

CARLSON, KAREN C

ART UNIT PAPER NUMBER

1653

DATE MAILED: 06/02/2004

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/462,517

Examiner

Karen Cochrane Carlson, Ph.D.

Applicant(s)

ZUKER ET AL.

Art Unit

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to April 30, 2004.
2. ☒ The allowed claim(s) is/are 14, 15 and 43-50.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

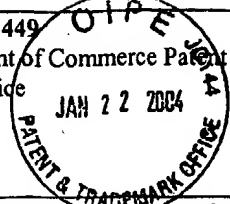
5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/22/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Karen Cochrane Carlson Ph.D.

KAREN COCHRANE CARLSON, PH.D.
PRIMARY EXAMINER

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office 	Docket No. AURO1210-1	Serial No.: 09/462,517
	Applicant: Zuker et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: May 18, 2000	Group Art Unit: 1653


U.S. PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	6,004,808	12/21/1999	Paul Negulescu et al.			
		<i>Cited</i>	<i>892</i>				

FOREIGN PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)


OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

<i>see</i>	AB	Brenman, J.E. et al., "Interaction of nitric oxide synthase with the postsynaptic density protein PSD-95 and alpha1-syntrophin mediated by PDZ domains", <i>Cell</i> , Vol. 84, 757-767, 1996.
	AC	Cabral, J.H. et al., "Crystal structure of a PDZ domain", <i>Nature</i> , Vol. 382, 649-652, 1996.
	AD	Chevesich, J et al, "Requirement for the PDZ domain protein, INAD, for localization of the TRP store-operated channel to a signaling complex", <i>Neuron</i> , Vol. 18, 95-105, 1997.
	AE	Choi, K.Y. et al., "Ste5 tethers multiple protein kinases in the MAP kinase cascade required for mating in <i>S. cerevisiae</i> ", <i>Cell</i> , Vol. 78, 499-512, 1994.
	AF	Dong, H. et al., "GRIP: a synaptic PDZ domain-containing protein that interacts with AMPA receptors", <i>Nature</i> Vol. 386, 279-284, 1997.
<i>see</i>	AG	Doyle, D.A. et al, "Crystal structure of a complexed and peptide-free membrane protein-binding domain: molecular basis of peptide recognition by PDZ", <i>Cell</i> , Vol. 85, 1067-1076, 1996.
EXAMINER 		DATE CONSIDERED 6-1-04

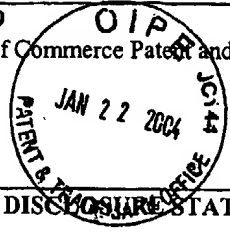
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Docket No. AURO1210-1	Serial No.: 09/462,517
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Applicant: Zuker et al.	
	Filing Date: May 18, 2000	Group Art Unit: 1653

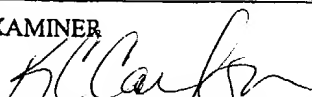
ccc	AH	Fanning, A.S. & Anderson, J.M., "Protein-protein interactions: PDZ domain networks", <i>Curr Biol</i> , Vol. 6, 1385-1388, 1996.
ccc	AI	Harrison, S.C., "Peptide-surface association: the case of PD and PTB domains", <i>Cell</i> Vol. 86, 341-343 1996.
	AI	Huber, A. et al., "The transient receptor potential protein (Trp), a putative store-operated Ca ²⁺ channel essential for phosphoinositide-mediated photoreception, forms a signaling complex with NorpA, InaC and InaD", <i>Embo J.</i> , Vol. 15, 7036-7045, 1996. Cited 892
hec	AK	Kim, E. et al., "GKAP, a novel synaptic protein that interacts with the guanylate kinase-like doain of the PSD095/SAP90 family of channel clustering molecules", <i>J. Cell Biol</i> , Vol. 136, 669-678, 1997.
	AL	Kim, E. & Sheng, M., "Differential K ⁺ channel clustering activity of PSD-95 and SAP97, two related membrane-associated putative guanylate kinases", <i>Neuropharmacology</i> , Vol. 35, 993-1000, 1996.
	AM	Larrivee, D.C. et al., "Mutation that selectively affects rhodopsin concentration in the peripheral photoreceptors of <i>Drosophila melanogaster</i> ", <i>Journal of General Physiology</i> , Vol. 78, 521-545, 1981.
	AN	Marcus, S. et al., "Complexes between STE5 and components of the pheromon-responsive mitogen-activated protein kinase module", <i>Proc Natl Acad Sci USA</i> , Vol. 91, 7762-7766, 1994.
	AO	Printen, J.A. & Sprague, G.J., "Protein-protein interactions in the yeast pheromone response pathway: Ste5p interacts with all members of the MAP kinase cascade", <i>Genetics</i> , Vol. 609-619, 1994.
	AP	Saras, J. & Heldin, C.H., "PDZ domains bind carboxy-terminal sequences of target proteins.", <i>Trends Biochem Sci</i> , Vol 21, 445-458, 1996.
	AQ	Sato, T. et al, "FAP-1: a protein tyrosine phosphatase that associates with Fas", <i>Science</i> Vol. 268, 411-0415, 1995.
ccc	AR	Schlessinger, J., "SH2/SH3 signaling proteins", <i>Curr Opin Genet Dev</i> , Vol. 4, 25-30, 1994.

EXAMINER 	DATE CONSIDERED 6-1-04
---	----------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office <div style="text-align: center;">  </div>	Docket No. AURO1210-1	Serial No.: 09/462,517
	Applicant: Zuker et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: May 18, 2000	Group Art Unit: 1653

see	AS	Scott, K. et al, "Gaz Protein Function <i>in vivo</i> : Genetic Dissection of Its Role in Photoreceptor Cell Physiology", <i>Neuron</i> , Kim, E. & Sheng, M., "Differential K ⁺ channel clustering activity of PSD-95 and SAP97, two related membrane-associated putative guanylate kinases", <i>Neuropharmacology</i> , Vol. 15, 919-927, 1995.
see	AT	Sheng, M., "PDZs and receptor/channel clustering: rounding up the latest suspects.", <i>Neuron</i> , Vol 17, 575-578, 1996.
	AU	Shieh, B.-H. & Niemeyer, B., "A novel protein encoded by the <i>InaD</i> gene regulates recovery of visual transduction in <i>Drosophila</i>", <i>Neuron</i>, Vol. 14, 201-210, 1995.
see	AV	Shieh, B.-H. & Zhu, M.Y., "Regulation of the TRP Ca ²⁺ channel by INAD in <i>Drosophila</i> photoreceptors", <i>Neuron</i> , Vol. 16, 991-998, 1996.
	AW	Shieh et al, "Association of INAD with NORPA is essential for controlled activation and deactivation of <i>Drosophila</i> phototransduction <i>in vivo</i> ", <i>Proceedings of the National Academy of Science USA</i> , Vol. 94, 12682-12687, 1997.
	AX	Songyang, Z et al, "Recognition of unique carboxyl-terminal motifs by distinct PDZ domains", <i>Science</i> , Vol. 275, 73-77, 1997.
	AY	Smith, D.P. et al, "Photoreceptor deactivation and retinal degeneration mediated by a photoreceptor-specific protein kinase C", <i>Science</i> , Vol. 254, 1478-1484, 1991.
	AZ	Tsunoda et al., "A multivalent PDZ-domain protein assembles signaling complexes in a G-protein-coupled cascade", <i>Nature</i> , Vol. 388, 243-249, 1997.
	BA	van der Geer, P & Pawson, T., "The PTB domain: a new protein module implicated in signal transduction", <i>Trends Biochem Sci</i> , Vol. 20, 227-280, 1995.
see	BB	Woods, D.F. & Bryant, P.J., "The discs-large tumor suppressor gene of <i>Drosophila</i> encodes a guanylate kinase homolog localized at septate junctions.", <i>Cell</i> , Vol. 66, 451-464, 1991.

EXAMINER 	DATE CONSIDERED 6-1-04
--	----------------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.